

Technology Safety Data Sheet

Technology Safety Data Sheet Evolution 180 Circular Saw (OENHP #: 2001-03, Version A)

Section 1: Technology Identity

Technology Name(s):		Emergency Contact:
Evolution 180 Circular Saw		Telephone: (319) 391-1300 FAX: (319) 391-2323 E-mail: jancy@jancyslugger.com
Manufacturer's Name and Address:		Information Contact:
Jancy Engineering 2735 Hickory Grove Road Davenport, Iowa 52804		Same as Emergency Contact
Date Prepared:	TSDS Version Number:	Prepared By:
8/23/01	2001-03-A	John Kovach, MS; Jeana Harrison; Aaron Ondo, MS; Bruce Lippy, CIH, CSP

Section 2: Technology Description

The Evolution 180 circular saw is a portable, handheld metal cutting tool with a 7-inch diameter blade. The blade is contained within the main housing and has a retractable lower blade guard to prevent access to the blade during operation. The saw is equipped with a chip collector, held in place by a wing nut. The maximum cutting thickness for metal is one-quarter inch, can cut steel tubing, and pipe two inches in diameter. The unit is operated with an on/off guarded trigger switch, and is supported by the hand guide mounted to the side of the saw. An adjustable lever sets the depth of cut. The retractable blade guard protects the operator from access during shutdown. The machine's circuitry will automatically shut the saw motor off if excessive overload is detected. Blade changes are accomplished using the blade spindle lock that holds the blade in place, during removal of the locking bolt.

Section 3: Technology Pictures



Figure 1. An operator cutting a metal pipe with the Evolution 180.



Figure 2. An operator cutting a 1/4 -inch steel plate with the Evolution 180.

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Section 4: Safety Hazards

Hazard Category:

- 4 – Could result in death or permanent total disability
- 3 – Could result in permanent partial disability or injuries or occupational illness that may result in hospitalization of at least three persons
- 2 – Could result in injury or occupational illness resulting in one or more lost work days
- 1 – Could result in injury or illness not resulting in a lost work day

A. Buried Utilities, Drums, and Tanks

Hazard Rating: N/A

- Buried utilities, drums, and tanks are not associated with this technology.

B. Chemical (Reactive, Corrosive, Pyrophoric, etc)

Hazard Rating: N/A

- Chemical use is not associated with this technology.

C. Confined Space

Hazard Rating: N/A

- Confined space is not a hazard associated with this technology.

D. Electrical

Hazard Rating: 1

- Shock due to insufficient amperage in cord and/or ungrounded outlets may occur.
- Performing maintenance or blade changes while machinery is energized may lead to shock. Following lockout/tagout procedures will reduce this risk.
- Exposure to a damaged extension cord may lead to shock.

E. Explosives

Hazard Rating: N/A

- Explosives are not associated with this technology.

F. Fire Protection

Hazard Rating: 1

- The facility fire protection plan should cover this tool, as it does not present an additional fire hazard.
- Heat generated by this saw when cutting wood might cause the sawdust in the chip collector to ignite.

G. Gas Cylinders

Hazard Rating: N/A

- Gas cylinders are not used with this technology.

H. Ladders/Platforms

Hazard Rating: N/A

- Electrical shock is possible when used with metal ladders or platforms.

I. Lockout/Tagout

Hazard Rating: 1

- The facility's lockout/tagout procedures and manufacturer's recommended procedures should cover this tool.

J. Mechanical Hazards

Hazard Rating: 2

- Cuts or abrasions may occur from contact with saw blade during use and blade changes.

K. Moving Vehicles

Hazard Rating: N/A

- This saw does not utilize any moving vehicles, although one will be used to move the fiberglass-reinforced crates to the decommissioning area. The workers should be aware of the normal hazards associated with moving vehicles.

L. Overhead Hazards

Hazard Rating: N/A

- During dismantlement of the fiberglass-reinforced crates, pieces of crate could fall upon completion of a cut or when the top of the crate is removed. Workers should wear hard hats when working on crates.

M. Pressure Hazards

Hazard Rating: N/A

- There are no pressure hazards associated with this technology.

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N. Slips/Trips/Falls	Hazard Rating: 1
<ul style="list-style-type: none"> Electrical cords should be properly managed during cutting operations. Work area should be kept clean and organized to eliminate possible tripping hazards. 	
O. Suspended Loads	Hazard Rating: N/A
<ul style="list-style-type: none"> Suspended loads are a site-specific hazard and are not part of this technology. 	
P. Trenching/Excavation	Hazard Rating: N/A
<ul style="list-style-type: none"> Trenching and excavation are not used for this technology. 	
Section 5: Health Hazards	
A. Inhalation	Hazard Rating: 2
<p>Inhalation hazards are highly dependent upon the type of material being cut.</p> <ul style="list-style-type: none"> General inhalation hazards associated with woodworking: <ul style="list-style-type: none"> Wood dust Plywood resins Inhalation hazards associated with the disassembly of fiberglass-reinforced plywood crates: <ul style="list-style-type: none"> Fiberglass dust (possible human carcinogen) Fiberglass resins Vapors and formaldehyde 	
B. Skin Absorption	Hazard Rating: 2
<p>Skin absorption is largely based upon the material being cut.</p> <ul style="list-style-type: none"> Fiberglass dust causes skin irritation (associated with the disassembly of fiberglass-reinforced plywood crates). 	
C. Noise	Hazard Rating: 1
<p>A noise assessment should be conducted on-site during actual use of the technology to determine the type of hearing protection required.</p> <ul style="list-style-type: none"> Excessive noise from tool and cutting operations may cause hearing damage. Excessive noise from ventilation and filtration system, as well as any noise from nearby operations, may cause hearing damage. 	
D. Heat Stress/Cold Stress	Hazard Rating: 2
<p>Heat stress is generally site-specific, although there are heat stress issues associated with this tool.</p> <ul style="list-style-type: none"> Heat stress can be generated by personal protective equipment such as: Tyvek suits, full-face respirators, and gloves. Heat from hand tool during extended tool duty time may cause heat stress. Extended worker duty time could cause heat stress, especially if the worker is working in hot conditions or wearing personal protective equipment. 	
E. Ergonomics	Hazard Rating: 2
<ul style="list-style-type: none"> Hand/arm vibration from the tool may cause nerve damage known as Raynaud's Syndrome. Static and awkward operating postures may cause pain in the hands and/or arms. Awkward lifting of tool may cause pain in the hands and/or arms. 	
F. Ionizing Radiation	Hazard Rating: N/A
<ul style="list-style-type: none"> Ionizing radiation is site-specific. 	
G. Non-ionizing Radiation	Hazard Rating: N/A
<ul style="list-style-type: none"> Non-ionizing radiation is site-specific. 	

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H. Biological Hazards	Hazard Rating: N/A
<ul style="list-style-type: none"> There are no biological hazards associated with this technology. 	
I. Other	Hazard Rating: N/A
<ul style="list-style-type: none"> None 	
Section 6: Phase Analysis	
A. Construction/Start-up	
<ul style="list-style-type: none"> Identify hazards through a pre-job analysis to determine personal protective equipment required. Inspect saw for obvious damage that may cause excessive vibration and potential for electrical shock. Select proper blade for each job so that worker fatigue and kickback is minimized and to reduce potential for sprains. Check power cords for proper amperage, frays, and cuts to protect against electrical shock. Ensure blades are straight and the teeth are sharp to reduce amount of force needed and to minimize vibration. Ensure blades are properly mounted to start work to avoid kickback or sprain. 	
B. Operation	
<ul style="list-style-type: none"> Maintain proper work position, don't overextend arms. Wear proper safety protection for hands (leather work gloves with rubber grips), eyes (safety glasses or goggles), and ears (ear plugs or ear muffs), and respiratory protection (depends upon the operation). Do not bind the blade between work pieces; do not force tool. Change blade only while the tool is not energized and use approved lockout/tagout procedures. Use proper amperage power cord and a grounded outlet. 	
C. Maintenance (Emergency and Routine)	
<ul style="list-style-type: none"> Check for damage to the saw and frayed cord. Perform all maintenance with the power off (unplug saw) and use approved lockout/tagout procedures. Conduct maintenance with qualified personnel and use manufacturer's authorized parts. 	
D. Shutdown (Emergency and Routine)	
<ul style="list-style-type: none"> Keep blade away from body while shutting down the tool. Grip plug and remove from socket (outlet). Maintain proper ergonomic position to avoid cuts and abrasions by the blade. 	
E. Decontamination/Decommissioning	
<ul style="list-style-type: none"> Use approved decontamination procedures. Discard unit using approved procedures. 	
Section 7: Worker Protection Measures	
A. Exposure Monitoring	
<ul style="list-style-type: none"> Noise sampling should be conducted during the actual use of the tool to determine the actual noise levels and the proper personal protective equipment necessary. Air sampling should be conducted during the actual use of the tool to determine levels of site-specific contaminants in the air. Nuisance dust is associated with woodcutting and fibers are associated with the cutting of fiberglass-reinforced crates. 	

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B. Worker Training

Worker training should include the following elements:

- Pre-job walk through
- Manufacturer's operating procedures
- Respirator training
- Personal protective equipment to be used
- Hearing conservation program, including the proper use of ear plugs
- Lockout/tagout procedures
- Electrical training
- Recognition of heat stress symptoms
- Recognition of ergonomic issues and symptoms

C. Medical Surveillance

- Audiograms must be administered if the noise levels are above 85 decibels. Workers whose personal noise sample yields results greater than 85 decibels must be placed in a hearing conservation program, which includes audiograms.

D. Engineering Controls

- No additional engineering controls are recommended.

E. Administrative Controls

- Worker training
- Controlled duty time of personnel and the equipment

F. Personal Protective Equipment

- Gloves
- Safety glasses or goggles
- Hearing protection

Section 8: Emergency Preparedness
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- Emergency response procedure should identify how the hazards identified in this TSDS are being addressed. Each worker should be trained and understand how to respond.

Section 9: Comments, Lessons Learned, and Special Considerations

- No additional comments, lessons, or special considerations.